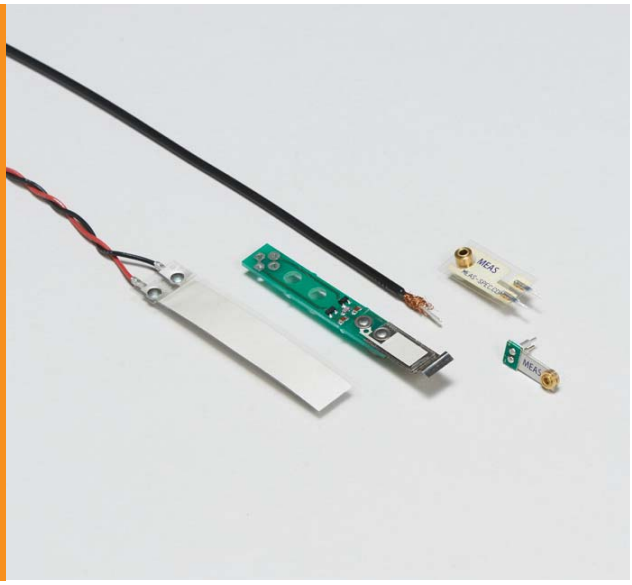
PIEZO FILM SENSORS

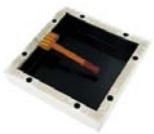


PIEZO FILM

	DT1, SDT1	Piezo Cable	CM-01	FLDT1
Package	Unshielded element with twisted pair or shielded element with shielded cable	Shielded coaxial 20 gage piezo cable	Metallized plastic housing	Unshielded film element with screen printed leads
Type	Flexible film, adhesive mount	Polymer jacketing, armored jacketing	Contact microphone	Flexible film, adhesive mount
Range	15 mV/με up to 1% strain	μPa sensitivity	40 V/mm; 8 Hz to 2.2 kHz	15 mV/με, up to 1% strain
Unique Features	• Thin, flexible, robust • Withstands >2% strain • Ultra-low power (Self generating)	• Continuous lengths of up to 1 km • Shielded construction	• Low noise • Shielded construction • High sensitivity	• Thin, flexible • Leads screen printed on film • Connects to standard connector
Accuracy	±20% (Typical)	±20% (Typical)	—	±20% (Typical)
Operating Temp.	-40°C to 70°C (Higher available custom)	-40°C to 85°C	5°C to 60°C	-40°C to 70°C; (Higher available custom)
Dimensions (mm)	Application dependent	Ø3 (Continuous lengths)	Ø18 x 11 high	12 x 30 active; (Custom available)
Typical Applications	Dynamic strain gage, contact microphone, acoustic pickup	Perimeter and fence security, geophone, impact sensors, intrusion detection, seat occupancy (e.g. airbag), patient bed vital signs monitor	Electronic stethoscope, contact microphone, vibration	Event timing, dynamic strain, motion detection

PIEZO FILM

	Sleep Monitor Strip	BL Traffic Sensor	Laboratory Amplifier	80 KHz Transducers
Package	Unshielded element with crimps	Center Core: 16 gage copper wire Piezoelectric Material: Piezoelectric film cable Outer Sheath: 0.016" thick brass	Bench top	Pin mounted
Type	Flexible film, adhesive mount	Spiral wrapped PVDF piezo film cable	Piezo film lab amp	Air ultrasound transducer
Range	15 mV/με up to 1% strain	15 mV/με up to 1% strain	0.1 Hz to 100 kHz	80 kHz
Unique Features	• Thin, flexible, robust • Withstands >2% strain • Ultra-low power (Self generating)	• Flexible, durable, available in many lengths • Withstands >2% strain • Ultra-low power (Self generating)	• Voltage or charge mode settings • Multi-pole high-pass and low-pass filters • Adjustable gain	• Small size • Low mechanical Q • Shielded package
Accuracy	±20% (Typical)	±20% (Typical)	Application dependent	Application dependent
Operating Temp.	-40°C to 70°C (Higher available custom)	-40°C to 70°C (Higher available custom)	0°C to 40°C	-20°C to 80°C
Dimensions (mm)	28 um PVDF; 8mm x 800mm	0.260" wide x 0.063" thick; 0.005"	150 x 100 x 100	Ø6 x 9
Typical Applications	Respiration and heart beat monitoring for mattress or seat	Traffic counting, classifying, toll booths, speed detection, red light cameras	Low frequency dynamic strain, pyroelectric signals, machine vibration, piezo cable and traffic sensor interface	Air ranging, ultrasonic mouse, digitizers



	NDT-1	Tamper Box	ACH-01	LDTC Family
Package	Adhesive mounted	Flat film or box mounted	Ceramic base, plastic cover, shielded cable	Piezo film elements with or without mass
Type	High frequency ultrasound transducer	Tamper detection sensor	Adhesive mount	Cantilever beam with vertical or horizontal pins
Range	3 MHz	Application dependent	±250 g (Typical)	±10 g (Typical)
Unique Features	• Flexible • High bandwidth, low Q • Low impedance	• Low power • Custom shapes and sizes • High security	• Extremely high bandwidth • Low cost • Ultra-low power	• Very low cost • High sensitivity (1 V/g) • Ultra-low power (Self generating)
Accuracy	Application dependent	Application dependent	±20% (Typical)	±20% (Typical)
Operating Temp.	-20°C to 60°C	-40°C to 85°C	-40°C to 85°C	-40°C to 70°C
Dimensions (mm)	12 x 30	Application dependent	18.80 x 13.21 x 6.10	19.05 x 6.35 x 6.35
Typical Applications	Thickness measurement, speed of sound measurement, pulse/echo NDT	Encryption modules, POS card readers, PIN entry devices	Vibration sensing, gear box and high speed monitoring, high speed bearings and centrifuges, speaker motional feedback	Wake-up switch, load imbalance, antitheft devices, impact sensing, vital signs monitoring